CLAIMS:

1.   An automotive control apparatus for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value, comprising:

        a unit for determining a first target value as said target value before change;

        a unit for determining a second target value calculated in accordance with selected one of drive modes intended for by a driver and a driving environment ahead of the vehicle of said driver; and

        a control unit for suppressing fluctuations of at least selected one of the driving torque, driving force and the acceleration/deceleration rate of said vehicle when a deviation between said first and second target values exceeds a predetermined value.

2.   An automotive control apparatus for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value, comprising:

        at least one of means for setting the drive mode intended for by the driver and means for

recognizing the driving environment ahead of the vehicle of said driver;

means for changing said target value in accordance with the signal produced from at least selected one of said two means; and

means for suppressing the fluctuations of said driving torque in the case where the deviation between the first target value before change and the second target value calculated by said signal exceeds a predetermined value while changing said target value.

3.   An automotive control apparatus according to Claim 2,

wherein said target value change means changes said first target value at a predetermined rate for a predetermined period as an initial target value, and when the deviation between said first target value and said second target value decreases to a predetermined level, changes said first target value to said second target value.

4.   An automotive control apparatus according to Claim 2,

wherein said first target value is at least selected one of the driving torque, the driving force and the acceleration/deceleration rate calculated based on the amount of manipulation of the driver, and

wherein said second target value is at least selected one of the driving torque, the driving force and the acceleration/deceleration rate calculated in

accordance with the signal produced from selected one of said mode setting means and said environment recognition means, and said second target value has an upper limit.

5.   An automotive control apparatus according to Claim 2,

wherein the signal produced from selected one of said drive mode setting means and said environment recognition means represents at least the distance from and the speed relative with a vehicle running immediately ahead.

6.   An automotive control apparatus for setting a target value of the driving torque on the output shaft side of the transmission based on at least the accelerator pedal stroke and the actual vehicle deceleration rate and controlling the transmission ratio in accordance with said target value, comprising:

means for controlling the engine brake applied as an inverse driving force from the wheels to the engine of the vehicle;

means for controlling the brake force of the wheels in accordance with said target value or in such a manner as to follow said target value; and

transmission ratio change means for controlling at least the engine torque and the transmission ratio in accordance with said target value, and in the case where said target value represents a deceleration request, controlling said engine torque to the vicinity of a minimum value thereof, said transmission ratio

change means further inhibiting the engine brake control
by said engine brake control means and changing said
transmission ratio in accordance with said target value
as long as said brake force is controlled.

7.   An automotive control apparatus for setting a
target value of the driving torque on the output shaft
side of the transmission based on at least the accele-
rator pedal stroke and the actual vehicle deceleration
rate and controlling at least the engine torque and the
transmission ratio based on said target value,
comprising:

        means for judging whether said target value
has changed from a deceleration request to an accele-
ration request, and

        means for limiting the margin of change from
the current transmission ratio for a predetermined
period in the case where said acceleration/deceleration
rate change judging means judges that a deceleration
request has changed to an acceleration request.

8.   An automotive control apparatus for setting a
target value of the driving torque on the output shaft
side of the transmission based on at least the accele-
rator pedal stroke and the actual vehicle deceleration
rate and controlling at least the engine torque and the
transmission ratio based on said target value,
comprising:

        means for calculating a target value of the
rotational speed on the input shaft side of the

transmission in accordance with said target value, and

means for setting a limit on the target rotational speed on the input shaft side of said transmission.

9.   An automotive control apparatus for setting a target value of the driving torque on the output shaft side of the transmission based on at least the accelerator pedal stroke and the actual vehicle deceleration rate and controlling at least the engine torque and the transmission ratio in accordance with said target value, comprising:

means for calculating a target transmission ratio in accordance with said target value, and

means for setting a limit on the target transmission ratio.

10.   An automotive control method for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value,

wherein the fluctuations of at least selected one of said driving torque, said driving force and said acceleration/deceleration rate are suppressed in the case where a deviation exceeding a predetermined value develops between said target value constituting a first target value before change and a second target value

calculated in accordance with selected one of the drive mode intended for by the driver of a vehicle and the driving environment ahead of the vehicle.

11.   An automotive control method for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value,

wherein the fluctuations of said driving torque are suppressed in the case where said target value is changed and a predetermined value is exceeded by the deviation between a first target value before change and a second target value calculated from the signal associated with selected one of the drive mode intended for by the driver of a vehicle and the driving environment ahead of said vehicle.

12.   An automotive control method for setting a target value of the driving torque on the output shaft side of the transmission based on at least the accele-rator pedal stroke and the actual vehicle deceleration rate and controlling the transmission ratio in accord-ance with said target value, comprising the steps of:

controlling the engine brake applied as an inverse driving force to the engine from the wheels of the vehicle;

controlling the brake force of the wheels in

accordance with said target value or in such a manner as to follow said target value;

controlling at least the engine torque and the transmission ratio in accordance with said target value;

controlling said engine torque to the vicinity of a minimum value thereof in the case where said target value represents a deceleration request,

inhibiting the engine brake control as long as said brake force is controlled, and

changing said transmission ratio in accordance with said target value.

13.   An automotive control apparatus for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value, comprising:

means for calculating the driving torque from the vehicle speed, the engine speed and the turbine speed of the transmission;

means for calculating the actual deceleration rate of said vehicle based on the change in the vehicle speed;

means for calculating the driving load of said vehicle from the vehicle speed, the deceleration rate calculated by said deceleration calculation means and the driving torque calculated by said driving torque

calculation means;

means for calculating a target deceleration rate based on at least the deceleration rate calculated by said deceleration rate calculation means and said accelerator pedal stroke; and

means for calculating said target value in accordance with the driving load calculated by said driving load calculation means and the target deceleration rate calculated by said target deceleration calculation means.

14.   An automotive control apparatus according to Claim 13,

wherein said driving load calculation means includes weight rewrite means for rewriting the magnitude of the driving load calculated.

15.   An automotive control method for setting at least selected one of the driving torque, the driving force and the acceleration/deceleration rate on the output shaft side of the transmission as a target value based on at least the accelerator pedal stroke and controlling at least the engine torque in accordance with said target value, comprising the steps of:

calculating the driving torque from the vehicle speed, the engine speed of the vehicle and the rotational speed of the turbine of said transmission;

calculating the actual deceleration of said vehicle based on the change in vehicle speed;

calculating the driving load of said vehicle

from the deceleration rate calculated, said vehicle speed and said driving torque;

calculating a target deceleration rate based on at least said deceleration rate and said accelerator pedal stroke; and

calculating said target value in accordance with said driving load and said target deceleration rate.